sions, there was not only marked improvement in the strength, and embonpoint, and active vigour of the woman, but that a very marked increase in the sexual appetite occurred, which still remains. Dr. McClelland tells me that in one of his cases the same result was noticed.

ART. VI.—*Endemic of Pythogenic or Miasmatic-Infectious Pneumonia, with Illustrative Cases.* By W. B. RODMAN, M.D., of Frankfort, Ky.

THERE occurred during the year 1874, in the Kentucky State Prison, seventy-five cases of pneumonia. These cases I made the basis of a report which was published in the *New York Med. Record* for March 13, 1875. They very closely resemble pneumonia as ordinarily seen in private practice, both as regards symptoms and pathological changes, except in degree of severity. The symptoms were decidedly intensified, and post-mortem examination revealed much more involvement of lung tissue than obtains in ordinary pneumonia. The causes were the manufacturing of hemp (*slightly*), the broken-down condition of the men, and principally the deficient ventilation of the cells and cell-house. The mortality was 8 per cent. The treatment was that which I employ in private practice, viz., carb. ammonia, quinia, stimulants, and nourishing diet, with the application of turpentine stupes followed by poultices of flaxseed. From January 1st, 1875, to February 24th, sixteen cases of the ordinary pneumonia had occurred; of these, one died on January 23d, after an illness of two days. About the last week of February it was evident that the type of pneumonia had radically changed, and a form which I have designated as pythogenic or miasmatic-infectious developed itself. I think it best, just here, to explain exactly what I mean by miasmatic-infectious. To those who have read Prof. Liebermeister's introduction "Infectious Diseases," in vol. 1st Ziemssen's Cyclopædia, no explanation is necessary, for I use the term exactly as he does. And all through this article I will use the words infection, contagion, etc., as he understands them. That is, an infectious disease is one in which the body is infected by specific poisons, which can reproduce themselves. Infectious diseases are subdivided into miasmatic, contagious, and contagious-miasmatic. In miasmatic the specific poison is developed outside the body; in contagious the poison is developed in the body, and then given by contact, mediate or immediate, to a non-infected body. Ordinary intermittent fever is an example of the miasmatic, smallpox of the contagious, both of these being infectious. Typhoid fever is an example of the miasmatic-contagious. In this disease the specific poison undergoes a partial development in the infected body, but this poison cannot infect a second body until it has passed from the first, and undergone a further development as a miasm, and then if taken into a healthy body it may produce the disease. This much merely to explain my meaning when I use the words contagion and infection.

The form of pneumonia which I am about to describe, I believe to be identical with "sewer gas" or "pythogenic pneumonia." This form we find mentioned, only recently, in the various medical journals, and I believe no text-book gives us any definite idea of it. Prof. G. B. Wood describes, under the head of bilious pneumonia, a disease of ordinary malarial complications, such a disease as would be, without the pneumonia, an attack, simply, of remittent or intermittent fever. Prof. Flint, when speaking of a fatal form of pneumonia, which prevails in the Southern and Southwestern States, refers to the same character of cases. Niemeyer vaguely hints at this peculiar form of pneumonia, and Roberts mentions as one of the causes *crowding* and *imperfect ventilation*. This miasmatic-infectious pneumonia differs essentially from that form of the disease which is caused by "taking cold," or that which comes on as a complication or sequela of smallpox, measles, typhus or typhoid fever, or is produced by any atmospheric or telluric changes. This form I believe to be caused by foul emanations from sewers, privies, or drains, and also by men being crowded together in sleeping apartments insufficient in size and imperfectly ventilated. I will now proceed to give my reasons for taking the view I have announced :—

Last fall and winter, there was an unusual prevalence of ordinary pneumonia over this whole section of country. I had more cases in private practice than ever before in the same length of time. During this epidemic, the prison was not spared. Whether to attribute this unusual amount of pneumonia to an excessively cold winter, or to some mysterious epidemic influence, I know not. Certain it is that there was no extraordinary number of cases of zymotic diseases of any kind in this vicinity. The cases which I then saw differed but little from ordinary pneumonia. After a time this "influence" ceased, and it was rare that I heard of a case of pneumonia in my own, or the practice of any of my friends. At the time mentioned, February 24th, cases of this fearfully fatal pneumonia began to pour into the prison hospital, and I set myself to work to find out what this fearful poison could be. The cell-house is 310 feet long, 43 feet wide, 75 feet high, and contains 648 cells. These cells by actual measurement contain 170⅔ cubic feet of air, and, like the cell-house, are very imperfectly ventilated. February 1st, 694 men were confined in these cells. During this month the number of prisoners received, was so much in excess of those discharged, that by March 1st, 735 men occupied these same cells. There are six tiers of cells on each side of the house, but those next to the roof, 108 cells, cannot be used, as it is almost certain death for any one to sleep in them, especially in summer.

For this reason partly, and partly because, under any circumstances, the number of prisoners is greater than the number of the cells, it is absolutely necessary to "double" some of the men. This is done with those who occupy the uppermost tiers of cells. The strongest cells are near the floor of the building, and are reserved for the whites, who are more apt to make their escape than the negroes. The latter exceed the whites, by about 50, and are confined in the upper tiers. Now comes a statement which is almost incredible. Every man goes to his cell with a night bucket, intended to be used only in case of an emergency; but rather than wait their turn at the privy, 400 of these men will use their buckets in their cells at various times from dark until daylight. The fearful odor arising from this source can scarcely be imagined. Whipping with the strap, and every legitimate punishment has been tried to prevent this, but all to no purpose. Cleanliness in the person of the men is enforced as much as possible; but negroes and whites, when in prison, are very much alike in one respect, and it is an exceptional thing to see a prisoner naturally neat and clean in his person. The lowermost tier is comparatively free from any unpleasant odor, and here there is less sickness than from any other part of the cell-house. The odor increases with each tier, and when the top is reached, to a person unaccustomed to it, the stench is almost unbearable. I have seen persons gag, as if they would vomit, when going into one of the cells on this top tier. The guards tell me they have to breathe much more rapidly than usual when making their night rounds on the upper corridors. It is now impossible for me to say exactly how many from each tier have died with pneumonia, the steward having failed to keep the record; but this I know from memory, that at least five-sixths of the cases and deaths were from the top tiers of cells. There have died in all, from this form of pneumonia, 25 men; of these, 24 were negroes. Counting as new prisoners, all those received from January 1st, 1875, to date, they would be in proportion to the old prisoners, about as 1 to 4. The records show that 14 out of the 25 deaths were among the new prisoners. This proves a fact, which I have often seen mentioned, that a stranger, coming within the sphere of action of any zymotic poison, is more apt to contract the disease than one who has, as it were, grown up with the development of the poison. During the prevalence of this pneumonia, cases of the ordinary type were received occasionally into the hospital. But it was evident, that the two diseases were very different in their features. It was remarkable to see a stout robust prisoner, in the full vigor of life, succumb, and that rapidly, to the infectious form, while by his side an old and broken-down man would be convalescing from an ordinary attack, and this too where a careful physical examination revealed about the same amount of lung consolidation in each case.

I have had but very little sickness in the prison from other sources than this pneumonia. There have been in the hospital about 15 cases of ordinary facial erysipelas, and 13 cases of acute rheumatism (to this latter I will call attention when I come to speak of the treatment); outside of the prison walls, I never saw a case of this infectious pneumonia. Frankfort and vicinity have been unusually healthy during the prevalence of this endemic in the prison—in fact a zymotic disease is rarely heard of. In view of all these facts, I am convinced that this pneumonia owes its origin to the foul emanations from the cells. Twice before in the history of the prison, pneumonia has prevailed to a fearfully fatal extent, and this about the time the prisoners became so numerous as to crowd the cells. I cannot say positively what form of pneumonia this was, as the physicians who had charge of the institution at that time are dead, but I have but little doubt that the disease was identical with the one in question. At that time, the causes of pneumonia in the prison were supposed to be "taking cold," and the inhalation of hemp dust and lint.

I do not believe that the latter of these two causes has much to do with the prevalence of pneumonia, for the following reasons: There are 450 men employed in the hemp factory, a large majority of whom are negroes. I do not know that the whites in the factory are more prone to have pneumonia than those employed in the chair, blacksmith, and other shops. Again, 40 women, all negroes, work in hemp constantly, but, having large, well-ventilated cells, they have no pneumonia. On inquiry I find, that, all through the hemp raising districts of Kentucky, the article is handled exactly as it is in the prison, but the negroes so employed are not more subject to pneumonia than those following other pursuits. I will not deny that hemp may predispose the men to attacks of pneumonia, if they have such places as I have described to sleep in; but that it is the principal factor I cannot believe. Many of the white men, who occupy the lower tiers of cells, work in hemp, as do the negroes who occupy the upper cells, but even in proportion to the number there are ten times more cases of pneumonia among the latter than the former.

The question has been asked, "whether the hygienic condition of the prison was worse when the pythogenic pneumonia prevailed, than it had been during the previous prevalence of simple pneumonia?" The condition of the men in every respect was the same, as far as I could determine by a careful examination of all the surroundings.

As regards race and color, I do not know but that negroes are more disposed to pneumonia than whites; and when attacked are much less able to withstand the effects of the disease. But if it were practicable, and the relative position of the two races in the cell-house were reversed, I am certain that more whites than negroes would be the victims of this poison.

One of the prison rules requires the men to be locked up in their cells on Sundays, except when at meals or in the chapel. This had to be abandoned; even now, when on Sundays rains compel the men to collect in the chapel or cell-house all day, an unusual amount of sickness is observed the first of the following week.

I do not regard this disease as a local one by any means. I believe this pneumonia, this consolidation of lung tissue, is a local manifestation of a constitutional disease. As in typhoid fever, the specific poison, being swallowed with the food, causes hyperæmia, inflammation, and ulceration of Peyer's patches, and infects the system at large, so, in this pneumonia, the specific poison inhaled into the lungs produces local trouble as it enters the blood and infects the whole body. One strong proof is this: All the deaths, but one, which I had from ordinary pneumonia, occurred from collateral œdema, or rapid and extensive progress of the inflammatory process; so much so, that in nearly every case I saw, at least one-half of the breathing capacity of the lungs was lost. In this miasmatic form I have seen men die, and *post-mortem* examination reveal probably only one lobe hepatized. From this it is evident that something more than the amount of lung tissue involved had caused death.

The *symptoms* also prove a systemic poisoning. I have seen patients when the pneumonia was very slight have violent delirium, so much so that one would naturally suppose that the brain was seriously affected. This delirium was most apt to occur where the lung affection was not a prominent symptom and the eyes showed an icterode hue. The pneumonia itself, both as to physical signs and *post-mortem* appearances, closely resembled an ordinary pneumonia. In many of the cases, almost pure blood was expectorated in large quantities, or the sputa were of a dirty brownish-black. Both of these symptoms were indicative of intense inflammation, and very few patients having them recovered. The tongue was frequently covered with heavy yellow coatings, and there would be but little desire for food. The bowels did not seem to be much affected, but the stools almost invariably had a horribly fetid odour. The urine was always a brownish-red, showing that the liver was not performing its functions properly. This latter organ was shown by *post-mortem* examination to be enlarged, congested, filled with dark, syrupy blood. In almost every case it pushed up, to a decided extent, the right lung, reaching nearly to the fourth rib on that side. Pain was not a constant symptom by any means, and in many cases the lung consolidation was revealed only by physical exploration. The heart was almost invariably filled with dark blood, and in each ventricle were pieces of fibrin, varying in size from a pigeon's to a hen's egg, and sometimes projecting several inches into the pulmonary artery or aorta as long cords. The pleura was implicated oftener than in simple pneumonia. In two or three cases small circumscribed empyemas were found. The average temperature seldom ranged so high as in ordinary pneumonia, and men would die without the rate of the pulse or respiration being increased to what would be considered a dangerous degree in simple cases.

The disease is very treacherous. To all appearances the patient may seem better. No pain, temperature lower, pulse and respiration improved, cough and expectoration grow less, and the patient says he is better. But in a few hours the fatal character of the attack would be evident.

There have occurred in the prison this year (to July 1st) 118 cases of pneumonia. Of these, 98 have been of the infectious kind; of these, 25 have died. I will give here some cases which will illustrate the disease when the patient recovers and when he dies

CASE I.—Guilford B., negro, age 24, very large and well-developed man. Was taken sick in his cell on the night of February 23. Had a chill; and when he reported himself at the hospital next morning his pulse was 112, respiration 32, temperature 104.5°. Was ordered carb. ammonia gr. xv, and quin. sulph. gr. iij, every three hours, as he was found to have pneumonia of the whole of the right lung. Turpentine stupes were ordered to relieve the pain. At 6 P. M. his temperature was 103.5°. As his eyes showed that he was jaundiced, he was ordered 10 gr. calomel at bedtime. The carb. ammon. and quinia were continued. His pulse averaged 115, his respiration 35, and his temperature gradually fell until it reached 101.5° on March 1, when he died. Post-mortem revealed hepatization of entire right lung.

CASE II.—Thomas C., negro, aged 27, very large man, with splendid muscular development. Had a chill the night of February 24th ; 25th, respiration 44, pulse 120, temperature 103½°. No pain anywhere, but physical examination shows pneumonia at apex of right lung. This man is decidedly jaundiced, and has delirium. Bowels acting well, but discharges very fetid. Urine a deep brown. Ordered carb. ammonia gr. xv; quin. sulph. gr. iij, every four hours; also liberal diet. Expectoration very slight, and indicates nothing particularly. This man's temperature from now until he died, March 10, averaged 103°, pulse 110, respiration 30. He gradually sank, and died with symptoms resembling uræmic poisoning. A short time before death the sputa looked as if they were tinged with bile, being yellow and frothy. Post-mortem revealed only consolidation of the upper lobe of the right lung, with liver enlarged, congested, and filled with thick, dark blood.

In both of these cases stimulants were given freely as soon as the indications presented.

The following are two well-marked, rapid cases :—

CASE III.—Isaac S., aged 31, coloured. Put to bed at 12 M. on April 22d. Calomel and quin. sulph. āā gr. vj were ordered. At 3 P. M. he fell into a profound stupor, could hardly be aroused. Mustard plaster was applied over the chest. 10 P. M. whiskey ℥ij was given; at 6 A. M. 23d, he took ℥ij beef tea. He died shortly after. Post-mortem showed both lungs (lower lobe of each) in the first stage of pneumonia.

This case I did not see, as he was taken sick and died between my usual morning visits.

CASE IV.—Richard A. (coloured), age 28. May 4th, put to bed to-day Pneumonia found in lower lobe of right lung. Tr. mur. ferri gtt. xxx, and quin. sulph. gr. iij, every three hours. Temperature 100° ; pulse and respiration not recorded. This man died on the night of the 6th. On the 5th his temperature was 103.5° ; at 6 P. M. on night of 6th, 101°. Post-mortem showed pneumonia of lower right lobe. Liver congested and enlarged ; other organs natural.

In both these cases the poison seemed to overwhelm the patients before there was much time given for the development of any decided local changes.

CASE V.—Hank W., coloured, age 24, was taken sick with a chill the night of April 30. Came to the hospital early on the morning of May 1. It was evident from the sounds heard over the root of the right lung that pneumonia was beginning, and would probably invade the whole lung on that side. Temperature 104° ; pulse and respiration not recorded. Tr. mur. ferri gtt. xxx, and quin. sulph. gr. iij were ordered every three hours ; also liberal diet and stimulants. The pneumonia progressed rapidly, until, as had been anticipated, the whole right lung was hepatized from apex to base. The expectoration was almost like pure blood, but after several days it became a dirty brownish-black. His temperature on May 2d and 3d reached 104.5° ; from this time it gradually sank to the normal, which was reached on May 21.

This is a fair example of an ordinary case terminating in recovery, except the character and amount of sputa.

I regret exceedingly that the reports of these cases are not more perfect in their details. My apology is, that the steward of the hospital is himself a prisoner, and has so many things to attend to, that he can scarcely find time to keep even such records as he has, especially when there is much sickness.

Having had such remarkable success with carb. ammonia in ordinary cases of pneumonia, I tried it faithfully in this pernicious form. The mortality was frightful. At last I saw my mistake ; I had been treating a local symptom for a general disease. I think now that I might as well treat a case of typhoid fever by attempting to heal the ulcerated bowel, as treat one of these cases of infectious pneumonia by ordinary pneumonia treatment. I dropped the ammonia and fought the poison with large doses of tr. mur. ferri and quinia ; at the same time sustaining the patient with liberal diet and stimulants in large quantities. The result was in every way satisfactory. Cases which I thought would inevitably die (others like them had died) recovered, although the recovery was protracted in nearly every case. Still there would occur every now and then a " lightning" case, where a man would be so overwhelmed with the poison, as to die in a few hours. In these cases I do not believe any treatment will do good.

About the time the pneumonia began to decline, several cases of acute rheumatism came into the hospital. I had five cases under treatment at one time, all negroes, and the attacks very much alike in severity. I put two of these five on quinia 5 grs. every 4 hours, and the other three on usual alkaline treatment. Soon the cases treated with quinia improved, while those treated with the alkalies either got worse or remained about the same. My course was plain. I put these three on quinia, and they immediately began to improve. Since then I have treated all cases of rheumatism coming from these upper cells with quinia, and with satisfactory results. And why? Because, I believe, this same poison is at work under a different form, and I know of no better antidote for it than quinia.

A mortality of 25 deaths in 98 cases is still fearful to contemplate, and the old adage, "an ounce of prevention is worth a pound of cure," might be quoted with great propriety. Whitewashing, burning coal-tar, cleanliness of prisoners and their bedclothing has accomplished something. Every window and door is opened that is possible, and all the fresh air that can, circulates through the cells. But until this cell-house is razed to the ground, and places built fit for human beings to sleep in, such scourges must exist.

To sum up under the same head as Drs. Grimshaw and Moore have done in their late communication to the *Irish Hospital Gazette* (a summary of which can be found on page 239 of the July No. of the *American Journal of the Medical Sciences*) I will state, 1st. That while pneumonia may (and probably the majority of cases do) arise from other causes, still there is a form which arises from miasmatic influences. This form is *infectious* but *not contagious*. Here I venture to differ from Drs. G. and M., if they use the term contagious as I understand it. I have seen no cases arise from contact, mediate or immediate, with a person having the disease. The nurses in my hospital who have waited on every one of the cases have never had the disease themselves. But if they had slept in the cell-house, instead of the hospital building, I have no doubt that some of them would have contracted the disease. 2d. I do not know what Drs. G. and M. mean by the *relations* existing between this form of pneumonia and other zymotic affections, as typhoid fever and cholera. I can see that there is some similarity in their being infectious, but in this, it no more resembles cholera and typhoid fever than it does typhus, smallpox, or common intermittent fever. Never having seen an epizootic pleuro-pneumonia, on this point I am silent. 3d. Its etiology does certainly justify us in classing it as a zymotic disease, but I think the name "miasmatic-infectious" better than that of "pythogenic" pneumonia. 4th. This form of pneumonia presents decidedly different clinical features from ordinary pneumonia. 5th. Drs. G. and M. believe that much of the pneumonia which prevailed in Dublin, in 1874, was of this type. I can readily understand how this can be true in a crowded city, or where the emanations from a drain or sewer pollute the surrounding air. I have never seen a case of infectious pneumonia outside the prison walls, unless I regard as infectious, those cases which arise from subtile *epidemic* influence commonly called atmospheric or telluric. In these last, I venture to say, that the clinical features differ very little from pneumonia as generally met with. 6th.

Pneumonia is generally met with, in this latitude, in cold wet weather, with sudden changes of temperature. The infectious form is due almost entirely to local causes, and the weather will have very little to do with its production, increase, continuance, or decline. I will also state that the invasion is decidedly more sudden than in ordinary pneumonia, and is less apt to attack the lower portion of the lung (in several of my cases the disease attacked the upper lobes only). I do not, with Drs. G. and M., think that it is easily arrested in the early stage, or that the disease is more amenable to treatment than ordinary pneumonia. Most of my recoveries were decidedly more protracted than recoveries from pneumonia generally are. It seems that Drs. G. and M., and myself agree that quinia is the best remedy for this infectious form of pneumonia, though I believe the mur tr. ferri to be a decided adjuvant. The sooner that this pneumonia is regarded as a mere symptom of systemic poisoning, and treated as such, the better it will be for both patient and physician.

ART. VII.—*On the Pathogenetic Physiology of Follicular Disease of the Throat and Air-Passages.* By BEVERLEY ROBINSON, M.D., Surgeon to the Manhattan Eye and Ear Hosp. (Department of the Throat), etc , New York.

WE desire to invite the attention of our colleagues to some considerations with respect to an affection which has occupied our thoughts for quite a long period.

The disease to which we have reference is popularly known under the name of clergyman's sore-throat. By practitioners of medicine it is more scientifically designated follicular disease of the throat and air-passages.

This latter appellation has several attendant advantages: we are made aware of the supposed anatomical seat of the malady; the morbid processes so frequently present in the glandular follicles is inferred, and the disorder readily assumes its proper nosological place. Already follicular disease has been fully and accurately described in very many particulars. To the late Horace Green, M.D., of New York, we are indebted for an admirable description of its rational and physical symptoms. In his treatise on bronchitis, chronic laryngitis, etc., he gave us the features in detail, which enable us to separate follicular disease from chronic inflammatory affections of the respiratory tract.

In the chapter on pathology, however, erasions might *now* be made with advantage to the work, and certain deficiencies supplied.

Perhaps, therefore, the results of our individual thought and experience on this head will not be devoid of interest to our readers.